



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,424	12/27/2001	Peter Vischer	1803-324-999	9274
20583	7590	10/02/2003	EXAMINER	
PENNIE AND EDMONDS 1155 AVENUE OF THE AMERICAS NEW YORK, NY 100362711			CHUNDURU, SURYAPRABHA	
			ART UNIT	PAPER NUMBER
			1637	

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/033,424

Applicant(s)

VISCHER, PETER

Examiner

Suryaprabha Chunduru

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I (claims 1-4) filed on July 7, 2003 is acknowledged.
2. Claims 1-12 are pending. Claims 1-4 are considered for examination. Non-elected claims 5-12 are withdrawn from further consideration.
3. The instant application has filing date as December 27, 2001 and claims foreign application priority date December 28, 2000.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

A. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/033,426 (US 2002/0164619).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the co-pending application are drawn to a method for processing a nucleic acid sample contained in a liquid comprising

(a) introducing said sample into a chamber of a cartridge which contains a chip shaped carrier having an active surface which carries an array of oligonucleotides, said surface facing an inner surface of a wall of said cartridge, said chamber having a narrow interior and including a channel, a portion of said channel lying between said active surface of said chip shaped carrier and the inner surface of said wall, a rigid segment of said wall being adapted to be swung about a predetermined angle back and forth about a torsion bar, swinging of said rigid segment in one sense moving one end thereof towards said active surface, and swinging of the rigid segment in an opposite sense moving said one end of the rigid segment away from said active surface,

(b) positioning said cartridge into a cartridge holder which holds said cartridge, said positioning being effected before or after introduction of said sample into said chamber, and

(c) swinging said rigid segment of said wall about said predetermined angle back and forth about said torsion bar in order to cause relative motion of the liquid sample contained in the channel with respect to said active surface of said chip shaped carrier.

Claim 1 of the instant invention is drawn to the said method as disclosed in the co-pending application with an obvious variation in reciting the method steps. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

B. Claims 2-4 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/033,426 in view of Gazeau (Pub No. US 2003/0059341 A1).

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the co-pending application are drawn to a method for processing a nucleic acid sample contained in a liquid comprising

(a) introducing said sample into a chamber of a cartridge which contains a chip shaped carrier having an active surface which carries an array of oligonucleotides, said surface facing an inner surface of a wall of said cartridge, said chamber having a narrow interior and including a channel, a portion of said channel lying between said active surface of said chip shaped carrier and the inner surface of said wall, a rigid segment of said wall being adapted to be swung about a predetermined angle back and forth about a torsion bar, swinging of said rigid segment in one sense moving one end thereof towards said active surface, and swinging of the rigid segment in an opposite sense moving said one end of the rigid segment away from said active surface,

(b) positioning said cartridge into a cartridge holder which holds said cartridge, said positioning being effected before or after introduction of said sample into said chamber, and

(c) swinging said rigid segment of said wall about said predetermined angle back and forth about said torsion bar in order to cause relative motion of the liquid sample contained in the channel with respect to said active surface of said chip shaped carrier. However the method in claim 1 of the co-pending application does not teach curved channel, position of the cartridge and the channel in relation to the active surface of the biochip.

Gazeau teaches a method for processing a biological sample comprising a rotatable rotor fixed at an angle to facilitate motion of liquid in the biochip carrier (see page 1, paragraph 007, paragraph 0020, page 2, paragraph 0028, paragraph 0030). Gazeau also discloses that the biochip carrier (cartridge holder) is held substantially vertical plane and the biochip

active surface is adjacent to a central portion of said liquid dispensing channel (see page 1, paragraph 0009, paragraph 0018, page 2, paragraph 0024); liquid dispensing nozzles (channels) are located on a circumference whose radius is substantially equal to that of the center of the reactors to dispensing liquids in to the reactors are connected by catheters (flexible tubes) to cover hermetic enclosure (curved), indicating channels are curved (see page 1, paragraph 0018, paragraphs 0011-0012, Figs. 5-6, and 8 showing curved carrier channels). Further, liquid dispensing nozzles could be telescoping (which is curved) in structure (see page 2, paragraph 0026).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of processing a nucleic acid sample contained in a liquid as disclosed in the co-pending application with the limitations as taught by Gazeau to achieve an expected advantage of developing an improved method for processing a nucleic acid sample contained in a liquid. An ordinary practitioner would have been motivated to combine the method as disclosed in the co-pending application with the teachings of Gazeau for the advantages of developing an improved method for processing a biological sample by including parameters as taught by Gazeau because such limitations would enhance sample contact with the active surface of a biochip and increase the detection process of the sample.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao et al. (USPN. 6,589,740) and in view of Gazeau (Pub No. US 2003/0059341 A1).

Nakao et al. teach a method of claim 1, for processing a nucleic acid sample contained in a liquid (see column 2, lines 29-56) comprising

(a) introducing said sample into a chamber of a cartridge (chip case) (see column 6, lines 2-11) which contains a chip shaped carrier (biochip) having an active surface which carries an array of oligonucleotides (probes) (column 2, lines 41-44), said chamber having a narrow interior and including a channel (a unit for supplying washing solution into the biochip case) (see column 6, lines 2-11);

(b) positioning said cartridge into a cartridge holder (container) which holds said cartridge, said positioning being effected before or after introduction of said sample into said chamber (see column 2, lines 41-56), and

(c) turning on and off the pressurized-type supplying unit allow the hybridization solution to remain on the biochip and facilitate hybridization with respect to said active surface of said chip shaped carrier (see column 6, lines 6-22). However, Nakao et al. did not teach oscillating said cartridge holder on an axis of rotation, moving back and forth at an angular position in order to cause relative motion of the liquid contained in said channel with respect to said active surface (biochip).

Gazeau teaches a method of claims 1-4, for processing a biological sample comprising a rotatable rotor fixed at an angle to facilitate motion of liquid in the biochip carrier (see page 1, paragraph 007, paragraph 0020, page 2, paragraph 0028, paragraph 0030). Gazeau also discloses

that the biochip carrier (cartridge holder) is held substantially vertical plane and the biochip active surface is adjacent to a central portion of said liquid dispensing channel (see page 1, paragraph 0009, paragraph 0018, page 2, paragraph 0024); liquid dispensing nozzles (channels) are located on a circumference whose radius is substantially equal to that of the center of the reactors to dispensing liquids in to the reactors are connected by catheters (flexible tubes) to cover hermetic enclosure (curved), indicating channels are curved (see page 1, paragraph 0018, paragraphs 0011-0012, Figs. 5-6, and 8 showing curved carrier channels). Further, liquid dispensing nozzles could be telescoping (which is curved) in structure (see page 2, paragraph 0026).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of processing a nucleic acid sample contained in a liquid as taught by Nakao et al. with the rotatable rotor or agitator as taught by Gazeau, which is applicable to facilitate motion of the liquid because Gazeau states that ‘the succession of rotational starts and stops agitates the liquids and accelerates washing of the biochips’ (see page 2, paragraph 0030). An ordinary practitioner would have been motivated to combine the method of Nakao et al. with the teachings of Gazeau for the advantages of developing an improved method for processing a biological sample by including agitating parameter because such limitation would enhance motion of the sample containing liquid and facilitate enhanced contact with the active surface of a biochip and increase the detection process of the sample.

Conclusion

No claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suryaprabha Chunduru whose telephone number is 703-305-1004. The examiner can normally be reached on 8.30A.M. - 4.30P.M, Mon - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and - for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

^{spe}
Suryaprabha Chunduru
September 24, 2003

Jehanne Souaya
JEHANNE SOUAYA
PATENT EXAMINER
9/25/03